

What is claimed is:

1. A metal backed printing blanket for mounting on a blanket cylinder that includes a gap, said printing blanket comprising:

a thin metal base plate having a top surface and a bottom surface and ends which include leading and trailing edges adapted for engaging said cylinder gap;

a compressible, elastomeric printing blanket secured to the top surface of the base plate but not to the ends, and having an upper face adapted for contact transfer of ink to a printable substrate; and

a specialized coating applied to said bottom surface to prevent deformation of said printing blanket and to prevent delamination of said printing blanket from the blanket cylinder.

2. The compressible printing blanket of claim 1, wherein the specialized coating is applied by way of thermowelding, spray-on techniques or plasma treatment.

3. The compressible printing blanket of claim 2, wherein said specialized coating is applied by thermowelding, and has a thickness of from about 10 to about 250 μm .

4. The compressible printing blanket of claim 3, wherein said specialized coating is at least one compound selected from the group consisting of polyurethane, polyolefin, phenolic compounds, nylon, polyvinyl chloride or polyvinyl fluoride.
5. The compressible printing blanket of claim 2, wherein said specialized coating is applied by spray-on techniques, and has a thickness of from 5 to 50 μm .
6. The compressible printing blanket of claim 5, wherein said specialized coating is at least one compound selected from the group consisting of polyvinyl fluoride, polytetrafluoroethylene, polytetraethylene, epoxy resins, phenolic resins, or nylon resins.
7. The compressible printing blanket of claim 2, wherein said specialized coating is applied by plasma treatment, and has a thickness of from 5 to 25 μm .
8. The compressible printing blanket of claim 7, wherein said specialized coating is selected from the group consisting of silicon carbide, aluminum oxide, or a mixture thereof.

9. The metal backed printing blanket according to claim 1, wherein an anti-slip layer is provided upon at least a portion of the top surface of each end of said base plate, with said anti-slip layers facing each other with the base plate ends positioned in the cylinder gap to provide more secure retention of the base plate within the gap during rotation of the cylinder.
10. The metal-backed printing blanket according to claim 1, further comprising a sealant applied along the edges of the blanket to prevent entry of liquid therein.
11. The metal-backed printing blanket according to claim 10, wherein the sealant is a material selected from the group consisting of nitrile polymers, acrylic polymers, fluorocarbon polymers, urethane polymers, cyanoacrylate polymers, epoxy polymers and mixtures thereof.
12. The metal-backed printing blanket according to claim 1, wherein said printing blanket further comprises at least one compressible layer beneath the upper face and at least one fabric layer to stabilize an interface or to reduce shear forces between the upper face or lower face and the compressible layer.

13. A method of making a printing blanket for mounting on a cylinder that includes a gap, which comprises:

applying an elastomeric printing blanket upon a metal base plate that has top and bottom surfaces and ends which include leading and trailing edges adapted for engaging the cylinder gap; and

applying a specialized coating to said bottom surface to prevent deformation of said printing blanket and to prevent delamination of said printing blanket from the blanket cylinder.

14. The method according to claim 13, wherein the specialized coating is applied by thermowelding, spray-on techniques or plasma treatment.

15. The method according to claim 14, wherein said specialized coating is applied by thermowelding, and has a thickness of from about 10 to 250 μm .

16. The method according to claim 15, wherein said specialized coating is selected from the group consisting of polyurethane, polyolefin, phenolic compounds, nylon, polyvinyl chloride, polyvinyl fluoride, and combinations thereof.

17. The method according to claim 14, wherein said specialized coating is applied by spray-on techniques, and has a thickness of from 5 to 50 μm .
18. The method according to claim 17, wherein said specialized coating is selected from the group consisting of polyvinyl fluoride, polytetrafluoroethylene, polytetraethylene, epoxy resins, phenolic resins, nylon resins, and combinations thereof.
19. The method according to claim 14, wherein said specialized coating is applied by plasma treatment, and has a thickness of from 5 to 25 μm .
20. The method according to claim 19, wherein said specialized coating is selected from the group consisting of silicon carbide, aluminum oxide, or mixtures thereof.
21. The method according to claim 13, wherein an anti-slip layer is provided upon at least a portion of the top surface of each end of said base plate, with said anti-slip layers facing each other with the base plate ends positioned in the cylinder gap to provide more secure retention of the base plate within the gap during rotation of the cylinder.

22. The method according to claim 13, further comprising sealing the edges of the blanket by applying a sealant to prevent entry of liquid therein.

23. The method according to claim 22, wherein said sealant is a material selected from the group consisting of nitrile polymers, acrylic polymers, fluorocarbon polymers, urethane polymers, cyanoacrylate polymers, epoxy polymers and mixtures thereof.

24. The method according to claim 13, said method further comprising providing at least one compressible layer beneath the upper face and at least one fabric layer to stabilize an interface or to reduce shear forces between the upper face or lower face and the compressible layer.